

102609

Assessment Guidelines for TABLE A-VI/3

Specification for minimum standard of competency

USCG-00-7694-2

Proficiency in Advanced Fire Fighting

Introduction

For the Advanced Fire Fighting assessment, candidates must meet the minimum standards of competence set out in STCW Code Table A-VI/3. The candidates will demonstrate their competence to (1) control fire fighting operations aboard ships; (2) organize and train fire parties; (3) inspect and service fire detection and extinguishing systems and equipment; and, (4) investigate and compile reports on incidents involving fire.

Proficiency (skill) demonstrations

Each candidate must demonstrate every required proficiency (skill) using actual equipment, an approved full mission simulator, live fire training facility or fire fighting simulator.

These proficiency (skill) assessment guidelines establish the conditions under which the assessment will occur, the performance or behavior the candidate is to demonstrate, and the standards against which the performance is measured and assessed. The assessor is also encouraged to use a checklist in conducting assessments of practical demonstrations of skill. Checklists allow a training institution or designated examiner to ensure that critical tasks are not overlooked and consistency is maintained when evaluating a candidate's practical demonstration.

Proficiencies (skills) that must be assessed wholly or in part through practical demonstration:

1. Fire fighting organization, tactics and command procedures at sea and in port;
2. Use of water for fire extinguishing and effect on stability;
3. Communication and coordination during fire fighting operations;
4. Utilizing ventilation controls to limit spread of fire and limit or extract smoke;
5. Utilizing fuel and electrical system controls to limit spread of fire and reduce hazards to fire fighters;
6. Management and control of injured persons;
7. Strategies and tactics for control of fires in various parts of the ship;
8. Inspecting and servicing fire detection systems, fixed fire extinguishing systems, portable and mobile fire extinguishing equipment, including appliances, life support personal protective and communication equipment; and
9. Assessment of causes of incidents involving fire.

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Knowledge and understanding demonstrations

Each candidate must demonstrate competence in every required knowledge or understanding through written examinations, practical exercises or instructionally valid incorporation into a proficiency (skill) demonstration.

Knowledge and understanding that must be wholly or partially assessed through written examination and practical exercises:

The following knowledge- and understanding-based competency components may be assessed through a written multiple-choice examination. The candidate must achieve a minimum grade of 70% in each knowledge or understanding competency component.⁽¹⁾

1. Fire fighting organization, tactics and command procedures at sea and in port;
2. Use of water for fire extinguishing and effect on stability;
3. Communication and coordination during fire fighting operations;
4. Utilizing ventilation controls to limit spread of fire and limit or extract smoke;
5. Utilizing fuel and electrical system controls to limit spread of fire and reduce hazards to fire fighters;
6. Fire fighting process hazards (dry distillation, chemical reactions, boiler uptake fires, etc.);
7. Fire fighting involving dangerous goods;
8. Fire precautions and hazards for storing and handling materials (paints, etc.);
9. Management and control of injured persons;
10. Procedures for coordination with shore-based fire fighters;
11. Preparation of contingency plans;
12. Composition and allocation of fire parties;
13. Strategies and tactics for control of fires in various parts of the ship;
14. Inspecting and servicing fire detection systems, fixed fire extinguishing systems, portable and mobile fire extinguishing equipment, including appliances, life support personal protective and communication equipment;
15. Requirements for statutory and classification surveys; and
16. Assessment of causes of incidents involving fire.

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⁽¹⁾ In order to satisfy STCW, every candidate must demonstrate the minimum standard for each knowledge, understanding and proficiency (skill) component (Table A-VI/3, Column 2) of a required competence (Table A-VI/3, Column 1). Minimum competence is not achieved by demonstrating 70% of the knowledge, understanding and proficiency (skill) components in the table, and in no case will a candidate be considered competent if any individual knowledge, understanding and proficiency (skill) component can not be successfully demonstrated. A minimum score of 70% must be achieved within each knowledge, understanding and proficiency (skill) component to meet the minimum specification of competence. Therefore, if only one instructionally valid question is asked for a required knowledge or understanding component and the candidate provides an incorrect response, the candidate has not satisfied the knowledge or understanding requirement. In contrast, if four instructionally valid and distinct questions are asked in a required knowledge or understanding component and the candidate provides one incorrect response, the candidate has achieved a score of 75% in that knowledge or understanding requirement and demonstrated minimum competence.

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Column 1 STCW Competence	Column 2 Knowledge, understanding and proficiency	Column 3 Performance Condition(s) (Conditions under which performance is measured)	Column 4 Performance Behavior (Demonstration of Proficiency)	Column 5 Performance Standards (Criteria against which performance is measured)
Control fire-fighting operations aboard ships	Fire-fighting procedures at sea and in port with particular emphasis on organization, tactics, and command.	Aboard a ship of 500 Gross Tonnage (ITC) or more at sea or in port, or in simulated shipboard conditions, given the ship's fire and emergency plans, and one of the following (simulated) fire scenarios: (1) engine room fire, (2) cargo hold fire, or (3) service space fire,	upon receipt of a report or other indication of fire, the candidate will take all required initial actions and make an initial assessment of the fire.	Promptly orders the sounding of the correct signals and takes all required initial actions in a timely manner and in accordance with the ship's emergency plan.
		Aboard a ship of 500 Gross Tonnage (ITC) or more at sea or in port, or in simulated shipboard conditions, given the ship's fire and emergency plans, and one of the following (simulated) fire scenarios: (1) engine room fire, (2) cargo hold fire, or (3) service space fire,	upon receipt of initial on-scene fire party reports, the candidate will make an initial assessment of the fire (location, extent and severity) and determine courses of action to control and extinguish the fire.	Uses initial reports in conjunction with the ship's fire plan to correctly determine the location, extent and severity of the fire; Courses of action developed are consistent with ship's fire and emergency plans, and accepted doctrines and procedures of shipboard fire fighting.

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	<p>Fire-fighting procedures at sea and in port with particular emphasis on organization, tactics, and command.</p> <p>Communication and coordination during fire fighting operations;</p> <p>Ventilation control, including smoke extractor;</p>	<p>Aboard a ship of 500 Gross Tonnage or more at sea or in port, or in simulated shipboard conditions, given the ship's fire and emergency plans, and one of the following (simulated) fire scenarios: (1) engine room fire (2) cargo hold fire, or (3) service space fire,</p>	<p>the candidate will demonstrate command, control, communication and coordination of a simulated shipboard fire fighting operation by (1) ordering all necessary system shutdowns, notifications, and passenger and crew movements; and (2) deploying additional fire parties to confine and extinguish the fire, rescue, remove and treat casualties, and overhaul the fire.</p>	<p>Actions: (1) are timely, complete and in accordance with ship's fire control and emergency plans; (2) minimize or mitigate risk to casualties, passengers and crew; and (3) are appropriate to the scenario and information received from periodic progress report.</p> <p>Communications are clear, concise and readily understood; fire parties and crew respond to orders as intended;</p> <p>Actions taken to coordinate operations achieve desired results;</p> <p>Actions taken to minimize spread of smoke using ventilation controls are timely, effective and consistent with the ship's fire and emergency plans;</p>

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	Control of fuel and electrical systems; and			Actions taken to secure fuel and electrical systems are timely, effective and consistent with the ship's fire and emergency plans; and
	Management and control of injured persons.			Management and control of injured persons are timely, consistent with the ship's fire and emergency plans and in accordance with accepted emergency medical practice.
	Use of water for fire extinguishing; the effect on ship stability, precautions and corrective procedures.	Aboard a ship of 500 Gross Tonnage or more at sea or in port, or in simulated shipboard conditions, given the ship's fire and emergency plans and having one or more fire parties fighting one of the following (simulated) fire scenarios: (1) engine room fire, (2) cargo hold fire, and (3) service space fire,	the candidate will determine the effect of fire fighting water streams on ship stability and take appropriate precautionary and corrective measures in accordance with the ship's fire and emergency plans.	Qualitative estimates of on-board water retention based on differences between fire stream flow and run-off based upon calculations, reports, and observations are correct; (2) timely action is taken to remove fire fighting run-off water from the ship; and (3) based on expectations, predictions, calculations and observations of effects of fire fighting water on ship stability, timely and effective precautionary, compensating and corrective actions are taken to maintain stability.

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Organize and train fire parties	Preparation of contingency plans; Composition and allocation of personnel to fire parties; Strategies and tactics for control of fires in various parts of the ship.	Aboard a ship of 500 Gross Tonnage or more at sea or in port, or in simulated shipboard conditions, given the ship's fire plans and given one of the following fire scenarios: (1) a cargo hold fire, (2) an engine room fire, (3) a galley fire, or (4) a living space fire,	the candidate will prepare a contingency plan that includes the composition and allocation of personnel to fire parties and has a stated strategy for containing, controlling and extinguishing the fire.	Contingency plan is consistent with ship's fire plan; Fire party assignments are consistent with training and physical abilities of personnel; Strategy and tactics are consistent with ship's fire and emergency plans, and accepted doctrines and procedures of shipboard fire fighting for the situation given and resources available

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		Aboard a ship of 500 Gross Tonnage or more at sea or in port, or in simulated shipboard conditions, given the ship's fire and emergency plans, and given one of the following fire scenarios: (1) a cargo hold fire, (2) an engine room fire, (3) a galley fire, or (4) a living space fire,	the candidate will plan, execute and evaluate (critique) a fire drill for controlling and extinguishing the type of fire given.	The drill plan, execution and evaluation (critique): (1) are consistent with ship's fire and emergency plans, (2) utilize fire party assignments consistent with training and physical abilities of personnel, (3) include specific performance goals and standards for acceptable versus unacceptable drill execution, and (4) employ strategy and tactics consistent with accepted doctrines and procedures of shipboard fire fighting for the situation given and resources available.

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Inspect and service fire detection and extinguishing systems and equipment	Fire detection systems; fixed fire extinguishing systems; portable and mobile fire extinguishing equipment, including appliances, pumps and rescue, salvage, life support, personal protective and communication equipment.	Aboard a ship of 500 Gross Tonnage or more at sea or in port, or in simulated shipboard conditions, equipped with the following: (a) a fire detection system; (b) a CO ₂ flooding system; (c) a fixed fire extinguishing system; (d) mobile and portable fire extinguishers; (e) a fire alarm system; (f) a fire main system, including hydrants, hoses and nozzles; (g) a fire pump; (h) a submersible or de-watering pump; (i) a fire fighter's outfit; (j) a breathing apparatus; and (k) a portable two-way radio, and given a precautionary safety warning on the dangers of, and safeguards to prevent, accidental activation of extinguishing systems and deactivation of fire detection and extinguishing systems,	when asked to simulate the inspection and service of each system, the candidate will demonstrate and describe the proper inspection and service requirements of each system or piece of equipment without actually activating, de-activating or disabling any system or item of equipment.	Descriptions and demonstrations of inspection and service requirements are complete and correct, in accordance with applicable manufacturers instructions, standard operating procedures, fire and emergency plans, safety procedures and good practice; No safety violations are observed and no system is activated, de-activated or otherwise disabled as a result of the demonstration.

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		Aboard a ship of 500 Gross Tonnage or more at sea or in port, or in simulated shipboard conditions, equipped with the following: (a) a fire detection system; (b) a CO ₂ flooding system; (c) a fixed fire extinguishing system; (d) mobile and portable fire extinguishers; (e) a fire alarm system; (f) a fire main system, including hydrants, hoses and nozzles; (g) a fire pump; (h) a submersible or dc-watering pump; (i) a fire fighter's outfit; (j) a breathing apparatus; and (k) a portable two-way radio, and given a precautionary safety warning on the dangers of, and safeguards to prevent, accidental activation of extinguishing systems and deactivation of fire detection and extinguishing systems,	when asked to simulate the activation and operation of each system, the candidate will demonstrate and describe the proper means to activate and operate each system or piece of equipment without actually activating, de-activating or disabling any system or item of equipment.	Descriptions and demonstrations of means to activate and operate each system or piece of equipment are complete and correct, in accordance with applicable manufacturers instructions, standard operating procedures, fire and emergency plans, safety procedures and good practice; No safety violations are observed and no system is activated, de-activated or otherwise disabled as a result of the demonstration.

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Investigate and compile reports on incidents involving fire	Assessment of cause of incidents involving fire.	In a mockup of a shipboard fire or in a live fire training facility, when presented with the remains of a fire in a fully involved and heavily damaged space (consistent with that of a ship of 500 Gross Tonnage or more) for which the point(s) of origin and cause is (are) unknown,	when asked, the candidate will describe the process of determining the point(s) of origin of the fire, using burn patterns, charred debris, material and structural damage, discoloration and distortion, and other physical evidence.	Descriptions of physical evidence are relevant to determining the point of origin; Process continually eliminates areas that are not points of origin; and The point(s) of origin is (are) identified correctly and completely.
		In a mockup of a shipboard fire or in a live fire training facility, when presented with the remains of a fire in a fully involved and heavily damaged space (consistent with that of a ship of 500 Gross Tonnage or more) for which the point(s) of origin is (are) given and cause is unknown,	when asked, the candidate will describe the cause of the fire while using burn patterns; charred debris, material and structural damage, discoloration and distortion, and other physical evidence and reports.	Descriptions of physical evidence are relevant to determining the cause; and The cause of the fire is identified completely and correctly.
		In a mockup of a shipboard fire or in a live fire training facility, when presented with the remains of a fire in a fully involved and heavily damaged space (consistent with that of a ship of 500 Gross Tonnage or more) for which the point(s) of origin and cause are given,	The candidate will evaluate the point of origin, the cause and any other relevant reports or eye witness accounts, and describe one effective countermeasure.	The countermeasure is effective in preventing, containing, mitigating or controlling fires having the same origin and cause in similar circumstances.